

06/25/2009

Bank: (Light Sport Pilot - Instructor)

Airman Knowledge Test Question Bank

The FAA computer-assisted testing system is supported by a series of supplement publications. These publications, available through several aviation publishers, include the graphics, legends, and maps that are needed to successfully respond to certain test items. Use the following URL to download a complete list of associated supplement books: http://www.faa.gov/training_testing/testing/airmen/test_questions/

The Learning Statement Reference Guide for Airman Knowledge Testing contains listings of learning statements with their associated codes. It can be located at: http://www.faa.gov/training_testing/testing/airmen/media/LearningStatementReferenceGuide.pdf

1. PLT238

CFI

Aspect ratio of a wing is defined as the ratio of the

- A) wingspan to the wing root.
- B) wingspan to the mean chord.
- C) square of the chord to the wingspan.

2. PLT238

CFI

At a constant velocity in airflow, a high aspect ratio wing will have (in comparison with a low aspect ratio wing)

- A) increased drag, especially at a low angle of attack.
- B) decreased drag, especially at a high angle of attack.
- C) increased drag, especially at a high angle of attack.

3. PLT238

CFI

(Refer to figure 21.) Consider only aspect ratio (other factors remain constant). Which aircraft will generate greatest lift?

- A) 1.
- B) 2.
- C) 3.

4. PLT095

CFI

Action of the ailerons moves the plane on its

- A) lateral axis.
- B) longitudinal axis.
- C) vertical axis.

5. PLT168 CFI

The angle of attack of a wing directly controls the

- A) angle of incidence of the wing.
- B) amount of airflow above and below the wing.
- C) distribution of positive and negative pressure acting on the wing.

6. PLT240 CFI

To maintain level flight in an airplane which is loaded with the CG at the forward limit, an additional download must be imposed on the horizontal stabilizer. This in turn produces

- A) an additional load which the wing must support.
- B) a lesser load that must be supported by the wing.
- C) a decrease in drag and results in a faster airspeed.

7. PLT480 CFI

The tendency of an aircraft to develop forces which restore it to its original condition, when disturbed from a condition of steady flight, is known as

- A) stability.
- B) controllability.
- C) maneuverability.

8. PLT240 CFI

As the CG location is changed, recovery from a stall becomes progressively

- A) less difficult as the CG moves rearward.
- B) more difficult as the CG moves rearward.
- C) more difficult as the CG moves either forward or rearward.

9. PLT244 CFI

If the pilot applies right rudder to a stable airplane, the

- A) tail deflects right and the nose moves right.
- B) tail deflects left and the nose moves right.
- C) tail deflects right and the nose moves left.

10. PLT245 CFI

What is the effect of center of gravity on the spin characteristics of a fixed-wing aircraft? If the CG is too far

- A) aft, a flat spin may develop.
- B) forward, spin entry will be difficult.
- C) aft, spins can become high-speed spirals.

11. PLT127 CFI

What can a pilot expect when landing at an airport located in the mountains?

- A) Higher true airspeed and longer landing distance.
- B) Higher indicated airspeed and shorter landing distance.
- C) Lower true airspeed and longer landing distance.

12. PLT018 CFI

(Refer to figure 25.) What would be the indicated stall speed in a 60° banked turn with the gear and flaps up?

- A) 110 KIAS.
- B) 117 KIAS.
- C) 121 KIAS.

13. PLT012 CFI

(Refer to figure 26.) Determine the takeoff distance required to clear a 50-foot obstacle.

Temperature	23 °C
Pressure altitude	3,000 ft
Weight	2,400 lb
Headwind	15 kts

- A) 653 feet.
- B) 718 feet.
- C) 754 feet.

14. PLT134 CFI

How does increased weight affect the takeoff distance of an airplane?

- A) The airplane will accelerate more slowly with the same power output, but the same airspeed is required to generate necessary lift for takeoff.
- B) The airplane will accelerate more slowly with the same power output, and a higher airspeed is required to generate necessary lift for takeoff.
- C) Every airplane has the same acceleration factor with the same power output, but a higher airspeed is needed to overcome the increased ground effect.

15. PLT005 CFI

(Refer to figure 24.) What is the effect of a temperature increase from 30 to 50 °F on the density altitude if the pressure altitude remains at 3,000 feet MSL?

- A) 900-foot increase.
- B) 1,100-foot decrease.
- C) 1,300-foot increase.

16. PLT008 CFI

(Refer to figure 31.) What is the total landing distance over a 50-foot obstacle?

Temperature	15 °C
Pressure altitude	4,000 ft
Weight	3,000 lb
Headwind	22 kts
A) 1,250 feet.	
B) 1,175 feet.	
C) 1,050 feet.	

17. PLT019 CFI
 (Refer to figure 24.) Determine the pressure altitude at an airport that is 3,563 feet MSL with an altimeter setting of 29.96.
 A) 3,527 feet MSL.
 B) 3,556 feet MSL.
 C) 3,639 feet MSL.

18. PLT305 CFI
 Which type of flap creates the least change in pitching moment?
 A) Split.
 B) Fowler.
 C) Slotted.

19. PLT023 CFI
 Under what condition is indicated altitude the same as true altitude?
 A) If the altimeter has no mechanical error.
 B) When at sea level under standard conditions.
 C) When at 18,000 feet MSL with the altimeter set at 29.92.

20. PLT023 CFI
 What is true altitude?
 A) The vertical distance of the aircraft above sea level.
 B) The vertical distance of the aircraft above the surface.
 C) The height above the standard datum plane.

21. PLT023 CFI
 What is absolute altitude?
 A) The altitude read directly from the altimeter.
 B) The vertical distance of the aircraft above the surface.
 C) The height above the standard datum plane.

22. PLT215 CFI

What should be the indication on the magnetic compass as you roll into a standard rate turn to the right from a south heading in the Northern Hemisphere?

- A) The compass will initially indicate a turn to the left.
- B) The compass will indicate a turn to the right, but at a faster rate than is actually occurring.
- C) The compass will remain on south for a short time, then gradually catch up to the magnetic heading of the airplane.

23. PLT023 CFI

What is true altitude?

- A) The vertical distance of the aircraft above sea level.
- B) The vertical distance of the aircraft above the surface.
- C) The height above the standard datum plane.

24. PLT253 CFI

To properly purge water from the fuel system of an aircraft equipped with fuel tank sumps and a fuel strainer quick drain, it is necessary to drain fuel from the

- A) fuel strainer drain.
- B) lowest point in the fuel system.
- C) fuel strainer drain and the fuel tank sumps.

25. PLT337 CFI

The pitot system provides impact pressure for which instrument?

- A) Altimeter.
- B) Vertical-speed indicator.
- C) Airspeed indicator.

26. PLT278 CFI

Prior to starting the engine, the manifold pressure gauge usually indicates approximately 29 inches Hg. This is because the

- A) pointer on the gauge is stuck at the full-power indication.
- B) throttle is closed, trapping high air pressure in the manifold.
- C) pressure within the manifold is the same as atmospheric pressure.

27. PLT190 CFI

Which condition is most favorable to the development of carburetor icing?

- A) Any temperature below freezing and a relative humidity of less than 50 percent.
- B) Temperature between 32 and 50 °F and low humidity.
- C) Temperature between 20 and 70 °F and high humidity.

28. PLT342 CFI

What action can a pilot take to aid in cooling an engine that is overheating during a climb?

- A) Reduce rate of climb and increase airspeed.
- B) Reduce climb speed and increase RPM.
- C) Increase climb speed and increase RPM.

29. PLT343 CFI

Excessively high engine temperatures will

- A) cause damage to heat-conducting hoses and warping of the cylinder cooling fins.
- B) cause loss of power, excessive oil consumption, and possible permanent internal engine damage.
- C) not appreciably affect an aircraft engine.

30. PLT343 CFI

Excessively high engine temperatures, either in the air or on the ground, will

- A) increase fuel consumption and may increase power due to the increased heat.
- B) result in damage to heat-conducting hoses and warping of cylinder cooling fans.
- C) cause loss of power, excessive oil consumption, and possible permanent internal engine damage.

31. PLT115 CFI

Detonation occurs in a reciprocating aircraft engine when

- A) the spark plugs are fouled or shorted out or the wiring is defective.
- B) hot spots in the combustion chamber ignite the fuel/air mixture in advance of normal ignition.
- C) the unburned charge in the cylinders explodes instead of burning normally.

32. PLT115 CFI

If a pilot suspects that the engine (with a fixed-pitch propeller) is detonating during climb-out after takeoff, the initial corrective action to take would be to

- A) lean the mixture.
- B) lower the nose slightly to increase airspeed.
- C) apply carburetor heat.

33. PLT478 CFI

The uncontrolled firing of the fuel/air charge in advance of normal spark ignition is known as

- A) combustion.
- B) pre-ignition.
- C) detonation.

34. PLT478 CFI

If the ground wire between the magneto and the ignition switch becomes disconnected, the most noticeable result will be that the engine

- A) will run very rough.
- B) cannot be started with the switch in the ON position.
- C) cannot be shut down by turning the switch to the OFF position.

35. PLT479 CFI

What should be the first action after starting an aircraft engine?

- A) Adjust for proper RPM and check for desired indications on the engine gauges.
- B) Place the magneto or ignition switch momentarily in the OFF position to check for proper grounding.
- C) Test each brake and the parking brake.

36. PLT253 CFI

When the pilot leans the mixture control, what is being accomplished?

- A) The volume of air entering the carburetor is being reduced.
- B) The volume of air entering the carburetor is being increased.
- C) The amount of fuel entering the combustion chamber is being reduced.

37. PLT249 CFI

The main purpose of the mixture control is to

- A) increase the air supplied to the engine.
- B) adjust the fuel flow to obtain the proper air/fuel ratio.
- C) decrease the fuel supplied to the engine as the aircraft descends.

38. PLT324 CFI

An abnormally high engine oil temperature indication may be caused by

- A) the oil level being too low.
- B) operating with a too high viscosity oil.
- C) operating with an excessively rich mixture.

39. PLT324 CFI

For internal cooling, reciprocating aircraft engines are especially dependent on

- A) a properly functioning thermostat.
- B) air flowing over the exhaust manifold.
- C) the circulation of lubricating oil.

40. PLT472 CFI

A high-frequency vibration in flight would most likely indicate potential trouble with

- A) the balance of the main rotor blades.
- B) a piston engine malfunction.
- C) worn parts in the main rotor system.

41. PLT351 CFI

The reason for variations in geometric pitch (twisting) along a propeller blade is that it

- A) prevents the portion of the blade near the hub to stall during cruising flight.

- B) permits a relatively constant angle of attack along its length when in cruising flight.
- C) permits a relatively constant angle of incidence along its length when in cruising flight.

42. PLT435 CFI

As standard operating practice, all inbound traffic to an airport without a control tower should continuously monitor the appropriate facility from a distance of

- A) 25 miles.
- B) 20 miles.
- C) 10 miles.

43. PLT141 CFI

What does a destination sign identify?

- A) Entrance to the runway from a taxiway.
- B) Direction to takeoff runways.
- C) Runway on which an aircraft is located.

44. PLT141 CFI

What is the purpose of the runway hold position sign?

- A) Denotes entrance to a runway from a taxiway.
- B) Denotes area protected for an aircraft approaching or departing a runway.
- C) Denotes taxiway location.

45. PLT146 CFI

(Refer to figure 54.) The segmented circle indicates that the airport traffic pattern is

- A) left-hand for Rwy 17 and right-hand for Rwy 35.
- B) right-hand for Rwy 35 and right-hand for Rwy 9.
- C) left-hand for Rwy 35 and right-hand for Rwy 17.

46. PLT150 CFI

The recommended entry position to an airport traffic pattern is

- A) 45° to the base leg just below traffic pattern altitude.
- B) to enter 45° at the midpoint of the downwind leg at traffic pattern altitude.
- C) to cross directly over the airport at traffic pattern altitude and join the downwind leg.

47. PLT509 CFI

During a takeoff made behind a departing large jet airplane, the pilot can minimize the hazard of wingtip vortices by

- A) remaining below the jet's flightpath until able to turn clear of its wake.
- B) extending the takeoff roll and not rotating until well beyond the jet's rotation point.
- C) being airborne prior to reaching the jet's flightpath until able to turn clear of its wake.

48. PLT509 CFI

How does the wake turbulence vortex circulate around each wingtip?

- A) Inward, upward, and around each tip.
- B) Inward, upward, and counterclockwise.
- C) Outward, upward, and around each tip.

49. PLT040 CFI

(Refer to figure 47.) Which altitude (box 1) is applicable to the vertical extent of the surface and shelf areas of this Class C airspace?

- A) 3,000 feet AGL.
- B) 3,000 feet above airport.
- C) 4,000 feet above airport.

50. PLT161 CFI

Normally, the vertical limits of Class D airspace extend up to and including how many feet above the surface?

- A) 2,500 feet.
- B) 3,000 feet.
- C) 4,000 feet.

51. PLT161 CFI

All operations within Class C airspace must be

- A) in communications with the responsible ATC facility.
- B) on a flight plan filed prior to arrival or departure.
- C) in an aircraft equipped with a transponder with automatic altitude reporting capability.

52. PLT170 CFI

What normally results from excessive airspeed on final approach?

- A) Bouncing.
- B) Floating.
- C) Ballooning.

53. PLT194 CFI

The most effective technique to use for detecting other aircraft at night is to

- A) turn the head and sweep the eyes rapidly over the entire visible region.
- B) avoid staring directly at the point where another aircraft is suspected to be flying.
- C) avoid scanning the region below the horizon so as to avoid the effect of ground lights on the eyes.

54. PLT244 CFI

If poor aircraft controllability is experienced during an emergency go-around with full flaps, the cause is most probably due to

- A) excessive airspeed with full flaps extended.
- B) the high-power, low-airspeed situation with the airplane trimmed for a full-flap configuration.
- C) a reduction in the angle of attack with full flaps to the point where the aircraft control is greatly impaired.

55. PLT219 CFI

What will cause the nose of an aircraft to move in the direction of the turn before the bank starts in a turn entry?

- A) Rudder being applied too late.
- B) Rudder being applied too soon.
- C) Failure to apply back elevator pressure.

56. PLT219 CFI

Two distinct flight situations should be covered when teaching slow flight. These are the establishment and maintenance of

- A) airspeeds appropriate for landing approaches, and flight at reduced airspeeds.
- B) an airspeed which gives a stall warning indication, and an airspeed at which complete recovery can be made from stalls.
- C) an airspeed at which the airplane is operating on the back side of the power curve, and an airspeed at which the elevator control can be held full-back with no further loss of control.

57. PLT486 CFI

When explaining the techniques used for making short- and soft-field takeoffs, it would be correct to state that

- A) during soft-field takeoffs, lift-off should be made as soon as possible.
- B) during soft-field takeoffs, lift-off should be made only when best angle-of-climb speed is attained.
- C) during short-field takeoffs, lift-off should be attempted only after best rate-of-climb speed is attained.

58. PLT232 CFI

All experienced pilots have fallen prey to, or have been tempted by, one or more of these dangerous tendencies or behavior problems at some time in their career. Select the answer that best describes these tendencies.

- A) Deficiencies in instrument skills and knowledge of aircraft systems or limitations.
- B) Peer pressure, loss of situational awareness, and operating with inadequate fuel reserves.
- C) Performance deficiencies due to stress from human factors, such as fatigue, illness, or emotional problems.

59. PLT022 CFI

Risk management, as part of the aeronautical decision making (ADM) process, relies on which features to reduce the risks associated with each flight?

- A) Application of stress management and risk element procedures.
- B) Situational awareness, problem recognition, and good judgment.
- C) The mental process of analyzing all information in a particular situation and making a timely decision on what action to take.

60. PLT194 CFI

Which technique should a student be taught to scan for traffic to the right and left during straight-and-level flight?

- A) Continuous sweeping of the windshield from right to left.
- B) Concentrate on relative movement detected in the peripheral vision area.
- C) Systematically focus on different segments of the sky for short intervals.

61. PLT482 CFI

Which statement is true about instructors' critiques?

- A) Instructors should rely on their personality to make a critique more acceptable.
- B) A comprehensive critique should emphasize positive aspects of student performance.
- C) Before students willingly accept their instructor's critique, they must first accept the instructor.

62. PLT482 CFI

A written test is said to be comprehensive when it

- A) includes all levels of difficulty.
- B) samples liberally whatever is being measured.
- C) measures knowledge of the same topic in many different ways.

63. PLT482 CFI

Which is the main disadvantage of supply-type test items?

- A) They cannot be graded with uniformity.
- B) They are readily answered by guessing.
- C) They are easily adapted to statistical analysis.

64. PLT482 CFI

A written test has validity when it

- A) yields consistent results.
- B) samples liberally whatever is being measured.
- C) measures what it is supposed to measure.

65. PLT482 CFI

Which is one of the major difficulties encountered in the construction of multiple-choice test items?

- A) Adapting the items to statistical item analysis.
- B) Keeping all responses approximately equal in length.
- C) Inventing distractors which will be attractive to students lacking knowledge or understanding.

66. PLT482 CFI
In a written test, which type of selection-type test items reduces the probability of guessing correct responses?
A) Essay.
B) Matching.
C) Multiple-choice.
67. PLT482 CFI
When an instructor critiques a student, it should always be
A) done in private.
B) subjective rather than objective.
C) conducted immediately after the student's performance.
68. PLT211 CFI
Practical tests for pilot certification are
A) norm-referenced.
B) criterion-referenced.
C) evaluation-referenced.
69. PLT481 CFI
The objective of the Practical Test Standards (PTS) is to ensure the certification of pilots at a high level of performance and proficiency, consistent with
A) safety.
B) the time available.
C) their abilities.
70. PLT482 CFI
During oral quizzing in a given lesson, effective questions should
A) be brief and concise.
B) provide answers that can be expressed in a variety of ways.
C) divert the student's thoughts to subjects covered in previous lessons.
71. PLT232 CFI
Faulty performance due to student overconfidence should be corrected by
A) increasing the standard of performance for each lesson.
B) praising the student only when the performance is perfect.
C) providing strong, negative evaluation at the end of each lesson.
72. PLT481 CFI

During the flight portion of a practical test, the examiner simulates complete loss of engine power by closing the throttle and announcing 'simulated engine failure'. What level of learning is being tested?

- A) Application.
- B) Correlation.
- C) Understanding.

73. PLT228 CFI

(Refer to figure 1.) Section D is titled:

- A) Content.
- B) Equipment.
- C) Instructor's Actions.

74. PLT295 CFI

Which statement is true concerning extraneous blocks of instruction during a course of training?

- A) They are usually necessary parts of the total objective.
- B) They detract from the completion of the final objective.
- C) They assist in the attainment of the lesson's objective.

75. PLT482 CFI

Which would more likely result in students becoming frustrated?

- A) Giving the students meaningless praise.
- B) Telling students their work is unsatisfactory with no explanation.
- C) Covering up instructor mistakes or bluffing when the instructor is in doubt.

76. PLT488 CFI

The first step in preparing a lecture is to

- A) research the subject.
- B) develop the main ideas or key points.
- C) establish the objective and desired outcome.

77. PLT295 CFI

Students who grow impatient when learning the basic elements of a task are those who

- A) are less easily discouraged than the unaggressive students.
- B) should have the preliminary training presented one step at a time with clearly stated goals for each step.
- C) should be advanced to the next higher level of learning and not held back by insisting that the immediate goal be reached before they proceed to the next level.

78. PLT227 CFI

Integrated flight instruction has many benefits, but the main objective is to

- A) develop the student's ability to fly the aircraft during inadvertent IMC.

- B) ensure the student is not overly dependent on instruments during VFR flight.
- C) help the student develop habit patterns for observance of and reference to flight instruments.

79. PLT295 CFI

During training flights, an instructor should interject realistic distractions to determine if a student can

- A) learn despite stressful conditions.
- B) maintain aircraft control while his/her attention is diverted.
- C) perform maneuvers using the integrated method of flight instruction.

80. PLT012 CFI

On a cross-country flight, point A is crossed at 1500 hours and the plan is to reach point B at 1530 hours. Use the following information to determine the indicated airspeed required to reach point B on schedule.

Distance between A and B	70 NM
Forecast wind	310° at 15 kts
Pressure altitude	8,000 ft
Ambient temperature	-10 °C
True course	270°

The required indicated airspeed would be approximately

- A) 126 knots.
- B) 137 knots.
- C) 152 knots.

81. PLT012 CFI

(Refer to figure 40.) The line from point A to point B of the wind triangle represents

- A) true heading and airspeed.
- B) true course and groundspeed.
- C) groundspeed and true heading.

82. PLT012 CFI

If a true heading of 135° results in a ground track of 130° and a true airspeed of 135 knots results in a groundspeed of 140 knots, the wind would be from

- A) 019° and 12 knots.
- B) 200° and 13 knots.
- C) 246° and 13 knots.

83. PLT101 CFI

Which statement about longitude and latitude is true?

- A) Lines of longitude are parallel to the Equator.
- B) Lines of longitude cross the Equator at right angles.

C) The 0° line of latitude passes through Greenwich, England.

84. PLT078 CFI

Information concerning parachute jumping sites may be found in the

- A) NOTAM's.
- B) Airport/Facility Directory.
- C) Graphic Notices and Supplemental Data.

85. PLT113 CFI

If the certification category of an airplane is listed as 'utility,' it means the airplane is intended for which maneuvers?

- A) Any type of acrobatic maneuver.
- B) All nonacrobatic maneuvers plus limited acrobatics including spins.
- C) Any maneuver incident to normal flying except acrobatics or spins.

86. PLT395 CFI

Which is a definition of the term 'crewmember'?

- A) A person assigned to perform duty in an aircraft during flight time.
- B) Any person assigned to duty in an aircraft during flight except a pilot or flight engineer.
- C) Only a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

87. PLT432 CFI

Regulations concerning the operational control of a flight refer to

- A) the specific duties of any required crewmember.
- B) exercising the privileges of pilot in command of an aircraft.
- C) exercising authority over initiating, conducting, or terminating a flight.

88. PLT484 CFI

Which is the correct symbol for the minimum steady flight speed at which an airplane is controllable?

- A) Vs.
- B) Vs1.
- C) Vso.

89. PLT457 CFI

Prior to a first solo flight, the flight instructor is required to endorse the student's

- A) logbook.
- B) pilot certificate.
- C) logbook and pilot certificate.

90. PLT418 CFI

An applicant has failed a knowledge test for the second time. With training and an endorsement from an authorized instructor, when may the applicant apply for a retest?

- A) immediately.
- B) After 5 days.
- C) After 30 days.

91. PLT448 CFI

What action may be taken against a person whom the Administrator finds has cheated on a knowledge test?

- A) Any certificate or rating held by the person may be suspended or revoked.
- B) That person will be required to wait 24 months before taking another knowledge test.
- C) That person may be required to wait a maximum of 6 months before applying for any other certificate or rating.

92. PLT508 CFI

If an ATC transponder installed in an aircraft has not been tested, inspected, and found to comply with regulations within a specified period, what is the limitation on its use?

- A) Its use is not permitted.
- B) It may be used anywhere except in Class A and B airspace.
- C) It may be used for VFR flight but not for IFR flight.

93. PLT052 CFI

What is the correct departure procedure at a noncontrolled airport?

- A) The FAA-approved departure procedure for that airport.
- B) Make all left turns, except a 45° right turn on the first crosswind leg.
- C) Departure in any direction consistent with safety, after crossing the airport boundary.

94. PLT208 CFI

How long may an aircraft be operated after the emergency locator transmitter has been initially removed for maintenance?

- A) 90 days.
- B) 30 days.
- C) 7 days.

95. PLT430 CFI

What is the minimum altitude and flight visibility required for acrobatic flight?

- A) 1,500 feet AGL and 5 miles.
- B) 1,500 feet AGL and 3 miles.
- C) 3,000 feet AGL and 3 miles.

96. PLT372 CFI

An aircraft's last annual inspection was performed on July 12, this year. The next annual inspection will be due no later than

- A) July 13, next year.
- B) July 31, next year.
- C) 12 calendar months after the date shown on the Airworthiness Certificate.

97. PLT068 CFI

(Refer to figure 14.) How are Significant Weather Prognostic Charts best used by a pilot?

- A) For overall planning at all altitudes.
- B) For determining areas to avoid (freezing levels and turbulence).
- C) For analyzing current frontal activity and cloud coverage.

98. PLT072 CFI

Vertical visibility is shown on Terminal Aerodrome Forecasts (TAF) reports when the sky is

- A) overcast.
- B) obscured.
- C) partially obscured.

99. PLT063 CFI

When viewing a radar summary chart, an echo top entered as 250 [underlined] means the maximum echo top is approximately

- A) 2,500 feet AGL.
- B) 25,000 feet AGL.
- C) 25,000 feet MSL.

100. PLT353 CFI

A radar summary chart identifies general areas and movement of

- A) low ceilings and/or poor visibility.
- B) precipitation and/or thunderstorms.
- C) turbulence and/or wind shear.

101. PLT286 CFI

Which weather chart depicts the conditions forecast to exist at a specific time in the future?

- A) Prognostic.
- B) Surface Analysis.
- C) Weather Depiction.

102. PLT071 CFI

The position of fronts and pressure systems (as of chart time) is best determined by referring to a

- A) Surface Analysis Chart.
- B) Radar Summary Chart.

C) Weather Depiction Chart.

103. PLT495 CFI

During warmer seasons, a high K index (KI) generally indicates conditions are

- A) favorable for thunderstorms.
- B) neutrally stable.
- C) unfavorable for thunderstorms.

104. PLT495 CFI

What are the minimum requirements for the formation of a thunderstorm?

- A) Sufficient moisture and a lifting action.
- B) Sufficient moisture, an unstable lapse rate, and lifting action.
- C) Towering cumulus clouds, sufficient moisture, and a frontal zone.

105. PLT511 CFI

What type weather is associated with an advancing warm front that has moist, unstable air?

- A) Stratiform clouds, lightning, steady precipitation.
- B) Cumuliform clouds, smooth air, steady precipitation.
- C) Cumuliform clouds, turbulent air, showery-type precipitation.

106. PLT510 CFI

Which statement is true regarding high- or low-pressure systems?

- A) A high-pressure area or ridge is an area of rising air.
- B) A low-pressure area or trough is an area of rising air.
- C) A high-pressure area is a trough of descending air.

107. PLT206 CFI

An aircraft is flying at a constant power setting and constant indicated altitude. If the outside air temperature (OAT) decreases, true airspeed will

- A) decrease, and true altitude will decrease.
- B) increase, and true altitude will increase.
- C) increase, and true altitude will decrease.

108. PLT203 CFI

The average lapse rate in the troposphere is

- A) 2.0° C per 1,000 feet.
- B) 3.0° C per 1,000 feet.
- C) 5.4° C per 1,000 feet.

109. PLT021 CFI

(Refer to figure 32.) How should the 500-pound weight be shifted to balance the plank on the fulcrum?

- A) 10 inches to the left.
- B) 10 inches to the right.
- C) 30 inches to the right.

110. PLT253 CFI

What effect, if any, does ambient temperature have on propane tank pressure?

- A) It has no effect.
- B) As temperature decreases, propane tank pressure decreases.
- C) As temperature decreases, propane tank pressure increases.

111. PLT180 CFI

What causes false lift which sometimes occurs during a balloon launch?

- A) Venturi effect of wind on the envelope.
- B) Closing the maneuvering vent too rapidly.
- C) Excessive temperature within the envelope.

112. PLT253 CFI

The purpose of the preheating coil as used in hot air balloons is to

- A) prevent ice from forming in the fuel lines.
- B) warm the fuel tanks for more efficient fuel flow.
- C) vaporize the fuel for more efficient burner operation.

113. PLT253 CFI

The best way to determine burner BTU availability is the

- A) burner sound.
- B) tank quantity.
- C) fuel pressure gauge.

114. PLT253 CFI

Why should methanol be added to propane fuel?

- A) Helps detect leaks in the fuel system.
- B) Helps prevent moisture from forming in the fuel system.
- C) Increases pressure and boiling temperature for operations in colder climates.

115. PLT253 CFI

Why should propane lines be bled after use?

- A) Fire may result from spontaneous combustion.
- B) The propane may expand and rupture the lines.
- C) If the temperature is below freezing, the propane may freeze.

116. PLT253 CFI

Why is it considered a good practice to blast the burner after changing fuel tanks?

- A) To check for fuel line leaks.
- B) It creates an immediate source of lift.
- C) To ensure the new tank is functioning properly.

117. PLT254 CFI

While in flight, ice begins forming on the outside of the fuel tank in use. This would most likely be caused by

- A) water in the fuel.
- B) a leak in the fuel line.
- C) vaporized fuel instead of liquid fuel being drawn from the tank into the main burner.

118. PLT254 CFI

The valve located on each tank that indicates the tank is filled to 80 percent capacity is the

- A) main tank valve.
- B) vapor-bleed valve.
- C) fuel pressure valve.

119. PLT253 CFI

Burner efficiency of a hot air balloon decreases approximately what percent for each 1,000 feet above MSL?

- A) 4 percent.
- B) 8 percent.
- C) 15 percent.

120. PLT113 CFI

What is a potential hazard in a balloon during a climb that exceeds maximum rate?

- A) Envelope may collapse.
- B) Deflation port may be forced open.
- C) Rapid flow of air may extinguish the burner and pilot light.

121. PLT184 CFI

If you are over a heavily-wooded area with no open fields in the vicinity and have only about 10 minutes of fuel remaining, you should

- A) stay low and keep flying in hope that you will find an open field.
- B) climb as high as possible to see where the nearest landing field is.
- C) land in the trees while you have sufficient fuel for a controlled landing.

122. PLT373 CFI

What should a pilot do if a small hole is seen in the fabric of a balloon during inflation?

- A) Continue the inflation and make a mental note of the location of the hole for later repair.
- B) Instruct a ground crew member to inspect the hole and, if under 5 inches in length, continue the inflation.
- C) Consult the flight manual to determine if the hole is within acceptable damage limits established for the balloon being flown.

123. PLT448 CFI

A student pilot may not operate a balloon in initial solo flight unless that pilot has

- A) received a minimum of 5 hours' flight instruction in a balloon.
- B) a valid Student Pilot Certificate and logbook endorsement by an authorized flight instructor.
- C) made at least 10 balloon flights under the supervision of an authorized flight instructor.

124. PLT470 CFI

Rotor blade flapping action is

- A) an undesirable reaction to changes in airspeed and blade angle of attack.
- B) an aerodynamic reaction to high speed flight and cannot be controlled by the pilot.
- C) a design feature permitting continual changes in the rotor blade angle of attack, compensating for dissymmetry of lift.

125. PLT237 CFI

Maximum gliding distance of an aircraft is obtained when

- A) parasite drag is the least.
- B) induced drag and parasite drag are equal.
- C) induced drag equals the coefficient of lift.

126. PLT017 CFI

(Refer to figure 55.) What approximate lift/drag ratio will the glider attain at 68 MPH in still air?

- A) 10.5:1.
- B) 21.7:1.
- C) 28.5:1.

127. PLT304 CFI

During a ground launch, how is the airspeed of a glider increased?

- A) Raise the nose.
- B) Lower the nose.
- C) Increase speed of vehicle or winch.

128. PLT496 CFI

What would be the approximate tensile strength of a rope with a 1,000 pound tensile strength if a knot develops in it?

- A) 500 pounds.
- B) 800 pounds.
- C) 1,000 pounds.

129. PLT304 CFI

What could result if a glider pilot releases while in the low-tow position during an aerotow?

- A) Nose of the glider would tend to pitch up after release.
- B) Tow ring may strike and damage the glider after release.
- C) Glider may be forced into the towplane's wake turbulence.

130. PLT257 CFI

When flying into a strong headwind on a long glide back to the airport, the recommended speed to use is the

- A) best glide speed.
- B) minimum sink speed.
- C) best lift/drag speed plus half the estimated windspeed at the glider's flight altitude.

131. PLT501 CFI

When soaring in the vicinity of mountain ranges, the greatest potential danger from vertical and rotor-type currents will usually be encountered on the

- A) leeward side when flying with the wind.
- B) leeward side when flying into the wind.
- C) windward side when flying into the wind.

132. PLT153 CFI

Below pressure height, each 5 °F of positive superheat amounts to approximately

- A) 1 percent of net lift.
- B) 1 percent of static lift.
- C) 2 percent of gross lift.

133. PLT154 CFI

The purpose of a ground weigh-off for an airship is to determine

- A) available lift.
- B) static and/or trim condition.
- C) trim angle necessary to make an up-ship takeoff.

134. PLT190 CFI

The first indication of carburetor ice in an aircraft with a four-cycle engine and fixed-pitch propeller is

- A) an increase in RPM.

- B) a decrease in RPM.
- C) a decrease in oil pressure.

135. PLT249 CFI

Fuel/air ratio is the ratio between the

- A) volume of fuel and volume of air entering the cylinder.
- B) weight of fuel and weight of air entering the cylinder.
- C) weight of fuel and weight of air entering the carburetor.

136. PLT253 CFI

The best power mixture is that fuel/air ratio at which

- A) cylinder head temperatures are the coolest.
- B) the most power can be obtained for any given throttle setting.
- C) a given power can be obtained with the highest manifold pressure or throttle setting.

137. PLT478 CFI

Fouling of spark plugs is more apt to occur if the aircraft

- A) gains altitude with no mixture adjustment.
- B) descends from altitude with no mixture adjustment.
- C) throttle is advanced very abruptly.

138. PLT249 CFI

The pilot controls the air/fuel ratio with the

- A) throttle.
- B) manifold pressure.
- C) mixture control.

139. PLT253 CFI

At high altitudes, an excessively rich mixture will cause the

- A) engine to overheat.
- B) fouling of spark plugs.
- C) engine to operate smoother even though fuel consumption is increased.

140. PLT189 CFI

Leaving the carburetor heat on during takeoff

- A) leans the mixture for more power on takeoff.
- B) will decrease the takeoff distance.
- C) will increase the ground roll.

141. PLT121 CFI

What constitutes the payload of a balloon?

- A) Total gross weight.
- B) Total weight of passengers, cargo, and fuel.
- C) Weight of the aircraft and equipment.

142. PLT021 CFI

(Refer to figures 33 and 34.) What effect does a 35-gallon fuel burn (main tanks) have on the weight and balance if the airplane weighed 2,890 pounds and the MOM/100 was 2,452 at takeoff?

- A) Weight is reduced by 210 pounds and the CG is aft of limits.
- B) Weight is reduced by 210 pounds and the CG is unaffected.
- C) Weight is reduced to 2,680 pounds and the CG moves forward.

143. PLT021 CFI

(Refer to figures 33 and 34.) Which action can adjust the airplane's weight to maximum gross weight and the CG within limits for takeoff?

Front seat occupants	425 lb
Rear seat occupants	300 lb
Fuel, main tanks	44 gal

- A) Drain 12 gallons of fuel.
- B) Drain 9 gallons of fuel.
- C) Transfer 12 gallons of fuel from the main tanks to the auxiliary tanks.

144. PLT021 CFI

(Refer to figures 33 and 34.) Upon landing, the front passenger (180 pounds) departs the airplane. A rear passenger (204 pounds) moves to the front passenger position. What effect does this have on the CG if the airplane weighed 2,690 pounds and the MOM/100 was 2,260 just prior to the passenger transfer?

- A) The CG moves forward approximately 3 inches.
- B) The weight changes, but the CG is not affected.
- C) The CG moves forward approximately 0.1 inch.

145. PLT125 CFI

During flight, advancing thrust will

- A) increase airspeed.
- B) cause the aircraft to climb.
- C) cause the aircraft to increase airspeed and climb.

146. PLT107 CFI

Concerning the advantages of an aircraft generator or alternator, select the true statement.

- A) An alternator provides more electrical power at lower engine RPM than a generator.
- B) A generator always provides more electrical current than an alternator.

C) A generator charges the battery during low engine RPM; therefore, the battery has less chance to become fully discharged, as often occurs with an alternator.

147. PLT346 CFI

The steering bars

- A) are used during taxi operations with the parachute stowed.
- B) control the outboard trailing edge of the parachute.
- C) control the main landing gear brakes.

148. PLT253 CFI

A standby source of fuel to an engine in a powered parachute is typically

- A) from an electrically powered pump.
- B) through gravity feed.
- C) from a pressurized fuel tank.

149. PLT190 CFI

Carburetor ice

- A) occurs mostly as a function of temperature.
- B) can only form when the outside air temperature is near freezing with high relative humidity.
- C) is more likely to form when outside air temperatures are below 70 degrees F and relative humidity is above 80%.

150. PLT190 CFI

Carburetor ice can form

- A) only at temperatures near freezing and the humidity near the saturation point.
- B) when the outside air temperature is as high as 100 degrees F and the humidity is as low as 50%.
- C) at any temperature or humidity level.

151. PLT343 CFI

Fuel and exhaust enter and exit a 4-cycle engine

- A) through exhaust ports and reed valves.
- B) through intake and exhaust valves.
- C) through intake ports and reed valves.

152. PLT190 CFI

In an aircraft equipped with a fixed-pitch propeller and a float-type carburetor, the first indication of carburetor ice would most likely be

- A) a drop in oil temperature and cylinder head temperature.
- B) engine roughness.
- C) loss of RPM.

153. PLT343 CFI

Air cooled engines dissipate heat

- A) through cooling fins on the cylinder and head.
- B) by air flowing through the radiator fins.
- C) through the cylinder head temperature probe.

154. PLT342 CFI

Coolant in a liquid cooled engine is normally circulated by

- A) capillary attraction.
- B) an electric pump.
- C) an engine driven pump.

155. PLT343 CFI

2-cycle engine thrust and fuel efficiency can be greatly compromised when

- A) exhaust systems are installed that are not specifically tuned for an engine.
- B) carbon deposits build up on exhaust valves.
- C) intake valve lifters fail to pressurize and provide adequate fuel to the combustion chamber.

156. PLT478 CFI

A kill switch provides a fast and reliable way to

- A) shut down the powerplant.
- B) shut down the electrical system.
- C) close the electric fuel shut-off valve.

157. PLT478 CFI

The purpose of a kill switch is to

- A) shut off the fuel to the carburetor.
- B) ground the lead wire to the ignition coil shutting down the powerplant.
- C) ground the battery eliminating current for the ignition system.

158. PLT478 CFI

One purpose of the dual ignition system on an two cycle engine is to provide for

- A) system redundancy in the ignition system.
- B) unequal heat distribution.
- C) unbalanced cylinder head pressure.

159. PLT324 CFI

Many 4-cycle engines utilize what type of lubrication system?

- A) Forced.
- B) Gravity.

C) Fuel/oil mixture.

160. PLT324 CFI

Four-cycle engines are lubricated by

- A) mixing the lubricating oil in the fuel.
- B) a vaporized mixture of fuel and oil.
- C) forcing oil directly to the components requiring lubrication.

161. PLT251 CFI

Adding more oil to the fuel than specified by the manufacturer of a 2-cycle engine will result in

- A) increased engine performance.
- B) increased carbon buildup and engine fouling.
- C) increased engine lubrication and optimal performance.

162. PLT342 CFI

Two-cycle engines lubricate internal components with

- A) a vaporized mixture of fuel.
- B) a vaporized mixture of fuel and oil.
- C) oil forced directly to the components.

163. PLT114 CFI

The center of gravity tube is

- A) lengthened for heavier pilots.
- B) shortened for lighter pilots.
- C) lengthened for lighter pilots.

164. PLT114 CFI

The fan guard protects

- A) the parachute's suspension lines from falling into the propeller.
- B) the propeller from rocks and debris.
- C) people from the rotating propeller blades.

165. PLT114 CFI

Cross ports in the parachute ribs aid in

- A) weight reduction of the canopy.
- B) the pressurization of the neighboring cells.
- C) drying of the canopy.

166. PLT271 CFI

Splicing severed suspension lines is

- A) permissible if using the same size material as the original line.
- B) a very dangerous practice.
- C) an acceptable field repair.

167. PLT114 CFI

Tying a severed suspension line

- A) will change the shape of the wing and is not permissible.
- B) is permissible if it is shortened no more than six inches.
- C) is an acceptable field repair.

168. PLT114 CFI

Degradation of the parachute's protective polyurethane coating results in

- A) increased takeoff distances, decreased maximum gross weight, and increased fuel consumption.
- B) reduced takeoff distances, increased maximum gross weight, and reduced fuel consumption.
- C) increased takeoff distances, increased maximum gross weight, and increased fuel consumption.

169. PLT253 CFI

During preflight, the fuel vent system should always be checked

- A) to ensure the vent is closed.
- B) to ensure the vent is open.
- C) to ensure the vent system pressure is in the green range.

170. PLT221 CFI

Flaring allows the pilot to touchdown at a

- A) higher rate of speed and a slower rate of descent.
- B) lower rate of speed and a higher rate of descent.
- C) lower rate of speed and a lower rate of descent.

171. PLT221 CFI

Flaring during a landing

- A) changes the shape of the airfoil, increasing lift.
- B) changes the shape of the airfoil, decreasing lift.
- C) extends the chord line of the airfoil, increasing lift.

172. PLT221 CFI

Flaring during a landing

- A) decreases the powered parachute's speed due to increased drag.
- B) increases the powered parachute's speed due to reduced drag.
- C) decreases the powered parachute's drag due to increased speed.

173. PLT258 CFI
(Refer to figure 49.) The angle of bank will be most nearly equal in which positions?
A) 3 and 7.
B) 1 and 5.
C) 4 and 6.

174. PLT242 CFI
As a weight shift aircraft wing approaches a stall, the wing tips
A) decrease the wings angle of attack.
B) act in much the same way as ailerons on a three-axis aircraft.
C) increase the wings angle of attack.

175. PLT114 CFI
The crosstube is positioned by
A) a quick release pin.
B) self-locking bolts.
C) restraining cables attached to the rear of the keel.

176. PLT114 CFI
On some trikes, the hang point is part of
A) a variable trim arrangement that allows the pilot to adjust the aircraft center of gravity during flight to obtain the most favorable aircraft performance.
B) an adjustable trim arrangement that allows the pilot to adjust the aircraft center of gravity during flight to obtain the most favorable aircraft performance.
C) an adjustable trim arrangement that allows the center of gravity to shift fore and aft along the wing's keel.

177. PLT114 CFI
The keel pocket's purpose is to
A) act as a longitudinal stabilizer, keeping the wing from wandering left and right.
B) act as a roll stabilizer, keeping the wing from wandering left and right.
C) act as a yaw stabilizer, keeping the wing from wandering left and right.

178. PLT114 CFI
How does the wing design feature "washout" affect the production of lift?
A) The wing tips continue producing lift when the main body of the wing is not producing lift.
B) The main body of the wing continues to produce lift when the wing tips are not producing lift.
C) The center of lift moves from the trailing edge of the wing, to the leading edge of the wing, as the wing begins to stall.

179. PLT114 CFI

The wing of a weight shift aircraft twists so that the angle of attack

- A) from the center of the wing to the wing tip is variable and can be adjusted by the pilot in flight to optimize performance.
- B) changes from a low angle of attack at the center of the wing, to a high angle of attack at the tips.
- C) changes from a high angle of attack at the center of the wing, to a low angle of attack at the tips.

180. PLT470 CFI

Gyroplanes that use small wings will cause rotor drag to do what at higher cruise airspeeds?

- A) Increase.
- B) Decrease.
- C) Remain the same.

181. PLT470 CFI

Rotor torque is a concern in gyroplanes only during

- A) prerotation or clutch engagement.
- B) maneuvers requiring high rotor rpm.
- C) maximum performance climbs and go-arounds requiring higher engine rpm.

182. PLT244 CFI

Which may lead to a power push-over in a gyroplane?

- A) Low speed.
- B) Rotor force is removed.
- C) Decreasing power too quickly.

183. PLT190 CFI

When operating a gyroplane in conditions favorable to carburetor icing, the carburetor heat control should be

- A) adjusted so the carburetor air temperature gauge indicates in the green arc.
- B) ON when practicing power-off maneuvers such as autorotations but OFF at all other times.
- C) OFF during takeoffs, approaches, and landings; other times, adjusted to keep carburetor air temperature in the green arc.

184. PLT472 CFI

A one-per-revolution vibration in a gyroplane indicates which condition?

- A) Rotor blades out of balance.
- B) One rotor blade out of track.
- C) Possible onset of retreating blade stall.

185. PLT149 CFI

Which is true concerning taxi procedures in a gyroplane?

- A) In ideal conditions, taxi speed should be limited to no faster than a brisk walk.

- B) Cyclic stick should be positioned slightly aft of neutral when taxiing.
- C) Rotor blades should not be turning when taxiing over a rough surface.

186. PLT112 CFI

When landing a gyroplane in crosswind conditions, proper technique requires that the

- A) longitudinal axis be parallel to the runway.
- B) direction of motion and heading coincide with runway direction.
- C) lateral axis of the gyroplane be parallel to the gyroplane's direction of motion.

187. PLT222 CFI

In order to maintain level flight (laterally) as airspeed increases on climbout after takeoff in a gyroplane, the pilot will need to increase

- A) rudder pressure to the left.
- B) cyclic pressure to the right.
- C) rudder and cyclic pressure to the left.

188. PLT344 CFI

You may anticipate fog when the temperature-dew point spread is

- A) 15 °F or less and decreasing.
- B) 15 °F or more and increasing.
- C) 5 °F or less and decreasing